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New Localities in Southeastern Alaska for the Long-toed Salamander, *Ambystoma macrodactylum* (Amphibia, Caudata, Ambystomatidae)

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Herein I present five heretofore unpublished localities for the long-toed salamander, *Ambystoma macrodactylum,* from southeastern Alaska. One of these is a 1984 historical record for the Taku River drainage, the voucher having been examined by myself in 1992 at the Auke Bay Laboratory Fish Collection in the presence of the curator Mr. Bruce Wing. Three are records I discovered in the field during my 1992 fieldwork in southeast Alaska. One is a new insular record, the voucher for which was given to me by Dr. Stephen O. Macdonald, University of Alaska, Fairbanks, during my 1992 field studies and I have examined it, verified its identification and cataloged it into an accession catalog (#1993-10) for deposit with my other materials from Alaska.

Below, I present what I consider to be separate new localities, in a fashion similar in form to the well-recognized Society for the Study of Amphibians and Reptiles *Herpetological Review* international geographical record format:

USA: ALASKA: Mainland Southeast Panhandle, Mallard Slough area, mainland north of mouth of the Stikine River (S 1/2 of Section 32, T59S, R82E, just above tidal influence to ca. 10 m elev.); larvae and adults collected in small ponds near mouth of Mallard Slough proper on north shore (Figures 1 and 2), and adults and subadults collected under woody debris along edge of alder (*Alnus* sp.) stand adjacent to sedge (*Carex* sp.) meadow shoreline areas just south of USFS Cabin (Figures 3–6), 30 April, 30 June and 1 July 1992. Collected by author. Verified by Dana Waters, Robert Clair, Tammi Stough, and Susan Wise-Eagle. Photographic vouchers at USFWS, Juneau Field Office and author's collection (Figures 7 and 8), and preserved vouchers to be placed in the University of Alaska, Fairbanks (UAF) Aquatic collection under: UAF 1993-10: #20a-k, #21, #23a-b, #24, and #27. First record for species on mainland north and outside of the Stikine River mainstem corridor area (Stebbins, 1985; Hodge, 1973, 1976). Dana Waters discussed seeing four specimens being brought to Wrangell Island from this population in 1992 but collected no vouchers and it was apparently never published (Waters, 1991, 1992, and pers. com.). Apparently he never saw this species in any of this 1991 transects at Twin Lakes, Mallard Slough, or elsewhere. The series of 16 I collected in 1992 constitutes the largest known series to date from any Alaskan locality.

USA: ALASKA: Taku River system area, between Hole-in-the-Wall and Twin Glaciers. Collected by Theodore R. Merrell, Jr., 19 September 1984. NOAA Collection, Auke Bay Laboratory, Juneau, Alaska, #AB84-47. Examined and verified in 1992 by author as a subadult specimen. Also verified by Bruce Wing. First record for the Taku River drainage and northernmost known record for the species (Hodge, 1973, 1976; Stebbins, 1985). Hodge (1976) appears to have a Taku River record pictured on his map on page 49, but depicts it as a historical literature record and the size of each of his dots covers a larger area than each record represents so that it is not clear that it represents the same specimen.

USA: ALASKA: Cheliped Bay area, mainland north of the mouth of the Stikine River (N 1/2 of Section 32, T59S, R82E, ca. 5 m elev.). Egg masses only observed in muskeg-like pools just above tidal influence, April 1992. No vouchers other than author's field notes. Verified by Robert Clair, U.S. Forest Service, Wrangell Ranger District. This area lies adjacent to and north of the Mallard Slough area. This and the preceding two records constitute the second, third and fourth mainland records for the species in the state north of the Stikine River mainstem corridor, the first and only previous Alaska mainland record being at Twin Lakes in the Stikine River north bank area (Hodge 1973, 1976).

Figure 1. Breeding pond of *Ambystoma macrodactylum* at north side of Mallard Slough locality. Transect area of author's field work, summer 1992. Photograph by author.

Figure 2. Another breeding pool of *Ambystoma macrodactylum* showing baited minnow trap in position at one of the author's summer 1992 field transects. This pool and that pictured in Figure 1, were also used for breeding by *Rana luteiventris* (then known as *Rana pretiosa*) and *Rana sylvatica* that year. Photograph by author.

Figure 3. View of the Mallard Slough *Ambystoma macrodactylum* locality at the coastal spruce/alder forest stand edge along the *Carex*-lined meadow at the edge of the intertidal zone, where salamanders were found both under woody debris at the edge of and within the stand, and under driftwood at the higher intertidal levels inundated only during higher tidal events. Photograph by author, July 1992. Note bay water edge and distant mountains along Stikine River to the south in the lower far right.

Figure 4. Interior view of coastal spruce/alder forest stand at the Mallard Slough *Ambystoma macrodactylum* locality, another 1992 field transect of the author's. Note the very large skunk cabbage, indicating the wetland nature of the area. Photograph by author.

Figure 5. A piece of woody debris on the *Carex* (sedge) dominated meadow beach at the Mallard Slough *Ambystoma macrodactylum* site. This piece was actually utilized by salamanders collected for the site's voucher series. Note the very thick herbaceous and grass layers at the site. Photograph by author, summer 1992.

Figure 6. Another view of the forest stand edge and the beach meadow where *Ambystoma macrodactylum* was collected at Mallard Slough, southeast Alaska. Note the high grass layer and the woody debris under which salamanders were collected. Photograph taken summer 1992 by the author.

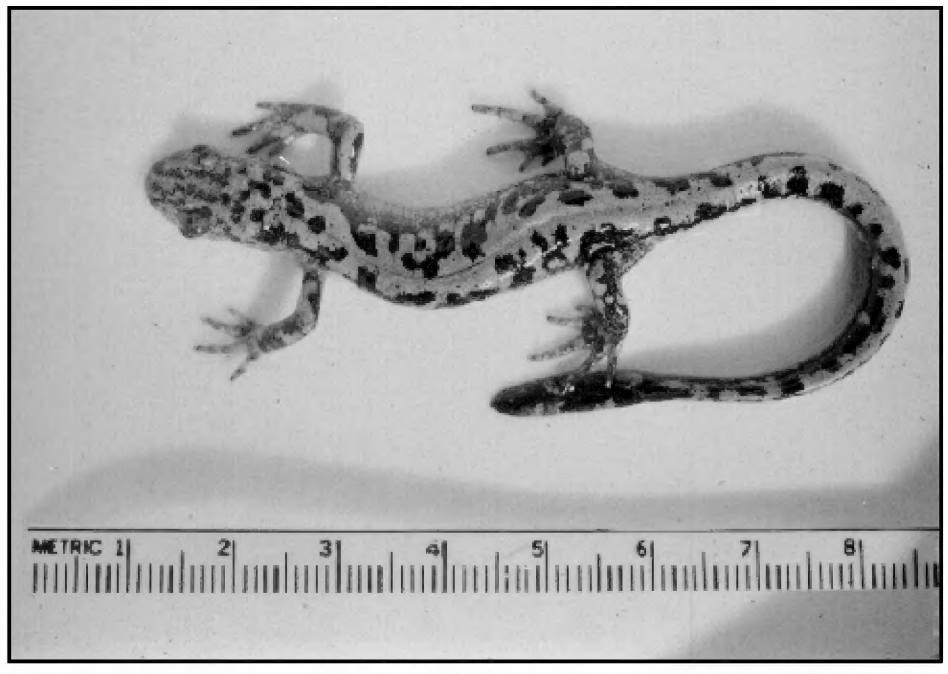

Figure 7. Voucher specimen, adult long-toed salamander, *Ambystoma macrodactylum*, from Mallard Slough area, southeast Alaska, 1992. Photograph by Gregory Norman and the author in laboratory under lighting. Scale is in millimeters. Note extremely long toes of hind feet. Compare with Hodge (1976) Plate 2 on Page 35 and Plate 1 on page 37; also compare with Stebbins (1985), Plate 2.

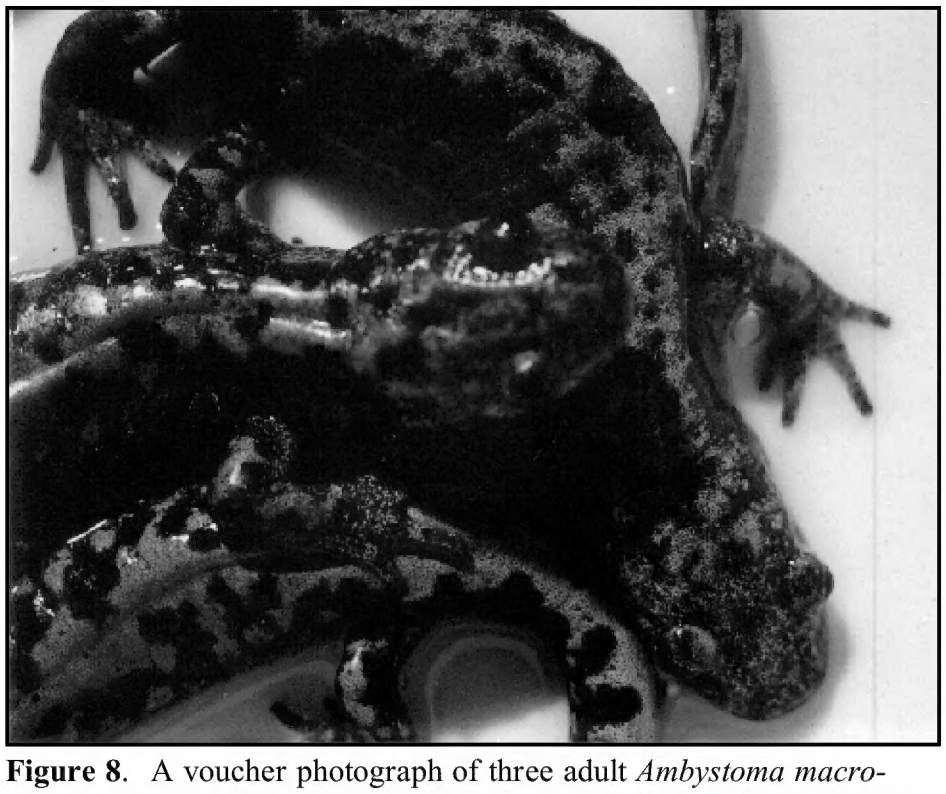

Figure 8. A voucher photograph of three adult *Ambystoma macrodactylum* from Mallard Slough area, southeast Alaska. Note the bright gold-colored variations on the dorsal surfaces. Photogaph by Gregory Norman and the author in laboratory under lighting.

Figure 9. A view of one of the author's 1992 transects at Twin Lakes, Stikine River area, southeast Alaska, where no *Ambystoma macrodactylum* were found by Waters in 1991, or by the author in 1992. This is the site Hodge reported on in 1973 and 1976. Compare Hodge's habitat figure for Twin Lakes on his page 49 (1976). Photograph summer 1992, by author.

USA: ALASKA: near mouth of Andrew Slough, mainland south side of Stikine River mainstem, 3 m in front of Alaska Department of Fish and Game Cabin (T60S, R84E, Section 3, elev. ca. 5 m), under downed wood piece embedded in sand under a thick over growth of blackberry vines. UAF 1993-10: #29; collected 21 July 1992 by author and observed by Tammi Stough, of Wrangell, Alaska. This record constitutes the first record of the species on the Alaskan mainland south of the Stikine River mainstem (Hodge 1973, 1976; Waters, 1991, 1992; Norman 1999).

USA: ALASKA: Stikine Delta Island Group, Farm Island, Binkley's Slough, pond near USFS Cabin area (SE 1/4 of Section 3, T61S, R83E). UAF 1993-10: #30; collected 25 July 1992 by Stephen O. MacDonald. Verified by author. Second insular record for state (Norman, 1999) and first record for the Stikine Delta Island Group and also the first insular record for the Stikine drainage per se (Hodge, 1973, 1976; Stebbins, 1985; Norman, 1999).

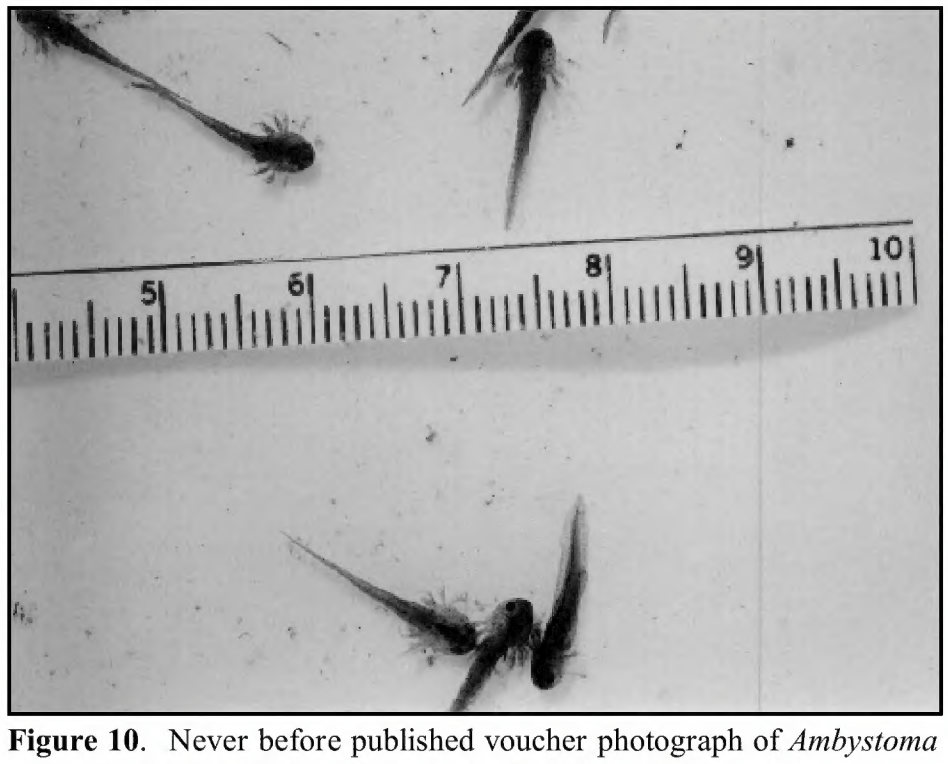

Figure 10. Never before published voucher photograph of *Ambystoma macrodactylum* hatchlings from the Sokolof Island, Alexander Archipelago, population of Norman (1999). Photograph by Gregory Norman and the author in laboratory under lighting. Scale in millimeters.

Discussion

Waters (1992) discusses the possibility of *Ambystoma macrodactylum* being introduced to Wrangell Island in 1991 by some unidentified persons who acquired their specimens from the Mallard Slough population(s), but he was never able to field confirm them as introduced on Wrangell Island. My own visual and minnow trap surveys on Wrangell Island in 1992, around the area reported to me by Waters (1992, pers. com.), did not confirm the introduction either. My own surveys for long-toed salamanders on Mitkof Island in 1991 and 1992 did not verify their presence there (Norman, pers. obs.; Norman and Hassler, 1995).

According to Schmidt (1953: p. 20) there were no published records of this species occurring north of southern British Columbia prior to that date. Nor does Slevin (1928) or Stebbins (1951) give any localities for *Ambystoma macrodactylum* in southeast Alaska. I requested a number of museum records from across the United States in order to obtain records of amphibians and reptiles historically collected within the state of Alaska (Norman and Hassler, 1995). No records for the species prior to the Hodge report of 1973 exist in any of the various computer-generated reports I received from many nationally accredited museums. Hodge's 1973 report was indeed the first record for the species in the state of Alaska.

Waters (1992) mentions the possibility that the Twin Lakes population, on the North side of the Stikine mainstem, about halfway along the Alaska side of the Stikine River corridor, might have been extirpated since Hodge's 1973 and 1976 reports. The fact that Waters' 1991 field work (1992), and my 1992 field work (Norman, 1999; Norman and Hassler, 1995; Waters et al., 1998) all had negative results from Twin Lakes transects (see Figure 9) for *Ambystoma macrodactylum* may give some credence to his presumption. It would be very interesting to conduct further studies there to understand more fully the status of *Ambystoma macrodactylum* at Twin Lakes and throughout southeast Alaska. Figures 10 and 11 are provided as previously unpublished voucher photographs of the Sokolof Island population reported by Norman (1999).

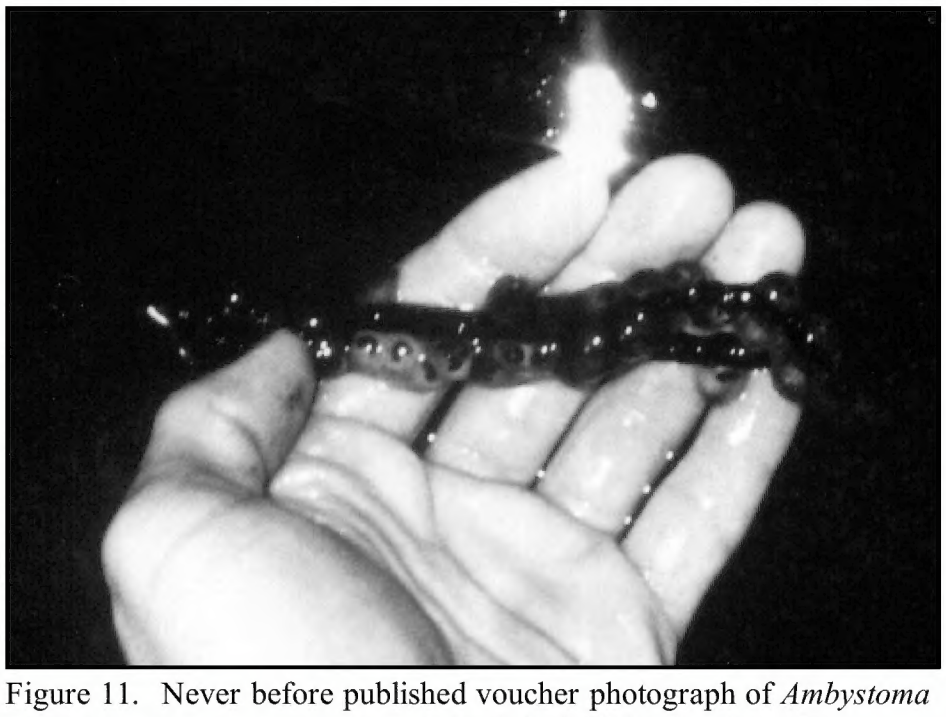

Figure 11. Never before published voucher photograph of *Ambystoma macrodactylum* eggs on a twig at the Sokolof Island, Alexander Archipelago, population breeding pool of Norman (1999). Photograph by Gregory Norman and the author in laboratory under lighting.

Acknowledgements

This paper was initially intended for *Herpetological Review*. The first three records were reviewed by Dr. Alan M. Richmond, University of Massachusetts, editor for that journal's Geographic Distribution section; he would have published the first two but apparently never reviewed the fourth and fifth record, and rejected the Cheliped Bay record because no vouchers exist other than field notes. I revised the manuscript and submitted it to the Chicago Herpetological Society. Mike Dloogatch edited the manuscript. Greg Goldsmith, USFWS, Arcata, California, helped greatly with creation of the map. I thank Nora Foster who registered my accession with the Alaska Aquatic Collection, University of Alaska, Fairbanks, as #1993-10 under state collecting permits SF-91-025, 92-47, SF-92-023 and Federal Permit #692350. Field investigations were funded by the USFWS, Endangered Species Division of the Ecological Services Office, Juneau, Alaska, under Research Work Order #29 to the California Cooperative Fishery Research Unit, via the Humboldt State University Foundation, Arcata, California. I particularly thank Bruce Wing, Robert Hodge, Nevin Holmberg, John Lindell, Chris Iverson, Susan Wise-Eagle, Dana Waters, Sumi Angerman, Dennis Paulson and Ernie Karlstrom. Gregory Norman assisted in photographing the live vouchers. I thank the Alaska Department of Fish and Game for use of their Stikine River cabin at Andrew Slough throughout the summer of 1992.

[Author's last-minute addition: Stebbins, R. C. 2003. A field guide to western reptiles and amphibians. Third edition. Boston: Houghton Mifflin. This book depicts a "revised" map for *Ambystoma macrodactylum* but does a disservice to the true distribution of this species in southeast Alaska by wiping a swath of bright yellow over the entire southeast panhandle area and its neighboring islands. This is not the salamander's true distribution within the habitat matrix there, as visible in the field or as determined by the published literature.]

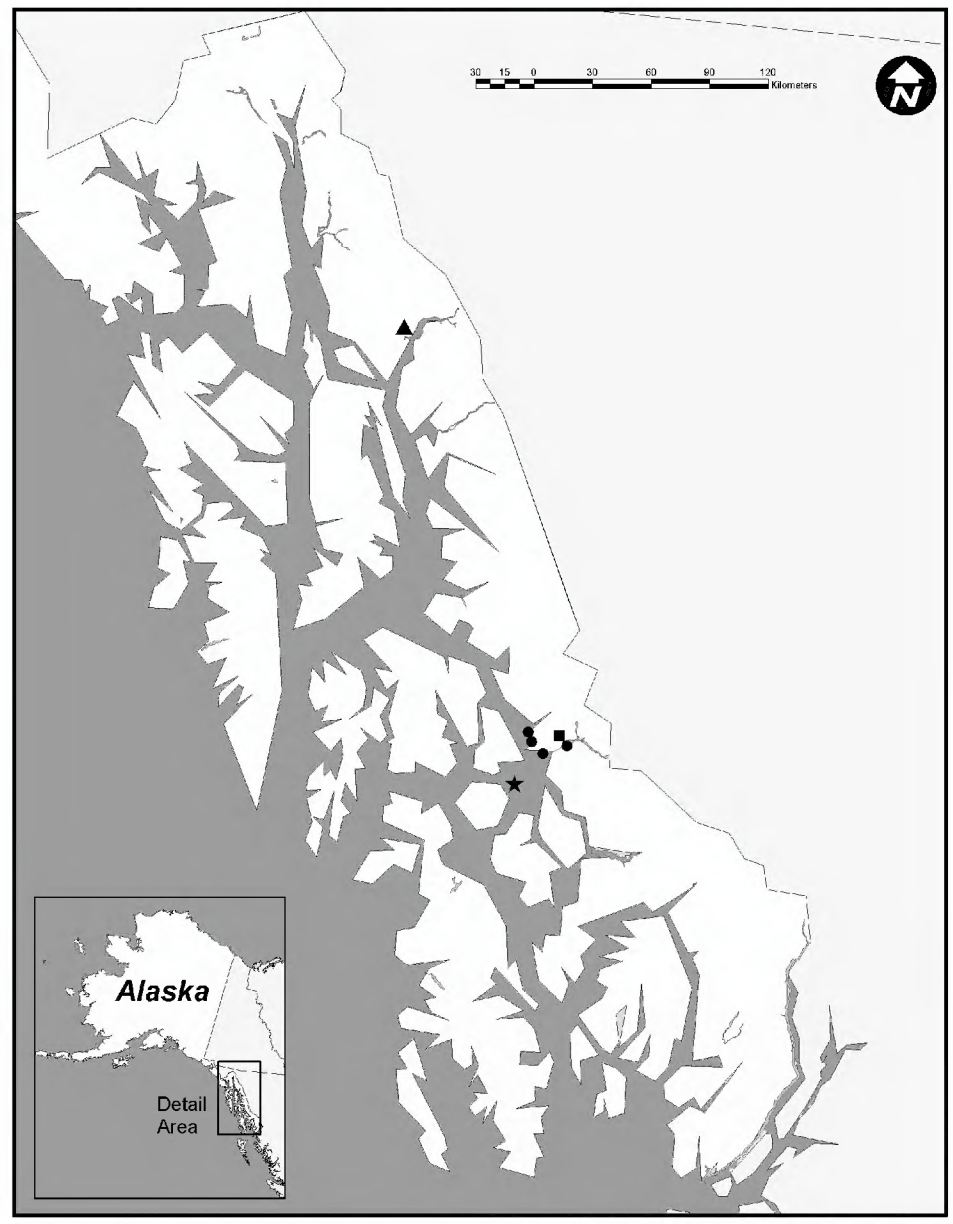

Figure 12. Known *Ambystoma macrodactylum* localities for southeast Alaska. Triangle represents previously unpublished Taku River record in Auke Bay NOAA collection. Square represents previously reported Twin Lakes, Stikine River area locality (Hodge, 1973, 1976). Star represents Sokolof Island record of Norman (1999). Circles mark new localities reported herein: Farm Island; Andrew Slough in the Stikine area; Cheliped Bay; Mallard Slough. Map generated using ArcView with the assistance of Greg Goldsmith, USFWS, Arcata, California.

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Bull. Chicago Herp. Soc. 39(4):65-68, 2004

Notes on Herpetofauna 5: Herpetofauna of the Sand Dunes of Viesca, Coahuila, Mexico: Preliminary List

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Abstract

Sand dune systems tend to be considered poorly diverse; however we have found a notable herpetological diversity. The dunes of Viesca, in Coahuila, have been constantly modified by several human activities, which reduce or otherwise affect the abundance of the vegetation and amphibian and reptile populations. This survey shows the diversity and relative abundance of the species within the sand dune system of Viesca. Although the surface area of dunes at Viesca has been reduced, we have found four snakes, eight lizards and five amphibian species distributed within this system. Unfortunately the amphibians as well as the endemic lizard *Uma exsul* are possibly the most impacted by several causes such as agriculture, off-road vehicles and illicit trash dumping.

Introduction

The systems of sand dunes in northern Mexico are environments of extreme climatic conditions; within these environments, the most relevant abiotic factors are temperature and available humidity (Moreno-Casasola, 1985, 1988). Among the biotic factors, the vegetation of these systems tends to be scarce, dispersed and lacking in diversity; however, the amount and type of plant resources are the main elements that determine the quality of the potential microhabitats for the small vertebrates of arid areas (Grenot and Serrano, 1981; Maury and Barbault, 1981; Thiollay, 1981).

Reptiles and small mammals are the organisms that tend to be the most representative and abundant groups in desertic systems. However, it is also possible to find low numbers of some amphibian species able to tolerate the arid conditions of the sand dunes (Pianka, 1966, 1967; Gallina et al., 1985).

The scarcity and the heterogeneous distribution of the vegetation results in a series of semi-isolated patches, which in turn determines the interpopulational relationships of the vertebrate species. In this type of environment, the impact of human activities tends to modify and greatly reduce the diversity and abundance of the species closely tied to the dominant vegetation. Of all the vulnerable fauna, the amphibians and reptiles are probably the most affected (Ballinger and Jones, 1985; Ballinger and Watts, 1995; Dixon, 1967; Gadsden et al., 2001).

The dunes of Viesca are located in the southwest of the state of Coahuila, Mexico. At the moment, the precise area of the system of dunes of Viesca is unknown, however a partial estimation suggests a surface of approximately 250 km^2.

The origin of the dunes of Viesca is thought to be fluvial deposits of sedimentary material developed by the convergence of the Nazas and Aguanaval Rivers in the lowest part of the hydrological region No. 36, particularly in the area called Laguna de Viesca. However, it is probable that eolian action also influenced the formation and dynamics of these dunes in a manner similar to the dunes of White Sands, New Mexico (Dixon, 1967).

Unfortunately, a factor that has had great impact on the integrity and biological diversity of this landscape of dunes is the disordered development of human activities. The establishment of illegal trash dumps, the encroachment of agriculture on the limited extent of the scarce vegetation that characterizes this habitat, fragmentation caused by roads and highways, and sand extraction for use in foundries are some of the destructive activities currently being intensively developed. All these factors have contributed to a gradual but constant reduction of the dune surface, which has resulted in modifications of the flora and fauna of this environment.

Reptiles and amphibians are the vertebrates perhaps most threatened by human activities in Viesca. Areas of loose sand where the endemic lizard *Uma exsul* is distributed abundantly (Gadsden et al., 2001) have been invaded and reduced by expanding croplands. Also, pools in low-lying areas harboring important populations of amphibians have been dramatically modified by crop-growing. For these reasons, it is necessary to determine the richness and abundance of the herpetofauna in these sand dune systems, to establish its importance, and to negotiate a political-social agreement concerning the protection of these systems that assures the conservation of the ecological integrity of this arid environment.

Methodology

Fauna surveys were carried out from spring 2002 to fall 2003 with seasonal samplings at several localities in the dunes of Viesca.

Five drift fences of rigid cardboard were used (0.45 m × 30 m). Thirty 20-l pitfall traps, separated from each other by

15 m, were placed on the borders of each drift fence (Bambaradeniya et al., 2002). Separately, 147 traps of 4.5 l were placed in mounds of dense vegetation, as well as in natural corridors of vegetation or sand (Guerra-Mayaudon, 1995). The drift fences and pitfall traps were set up only at two sampling points selected semi-aleatorily in areas where the human activity was minimum (Staton and Dixon, 1977). The drift fences were in place from two to three days per sampling point and the traps were checked every two hours during the day beginning at 0800 h and concluding at 2000 h.

We surveyed amphibians and reptiles during the day at twelve points selected randomly. Each point was swept by three or four people walking slowly along a linear transect 1 km in length. Organisms observed during the surveys were captured with the noose technique (Gadsden et al., 2001). All the amphibians and reptiles captured were liberated at the point of capture immediately after being identified and photographed. The determination of species was made based on the guides of Conant and Collins (1991, 1998) and Powell et al. (1998). Comments on abundance are based on the following arbitrarily defined terms: Rare — less than 10 individuals; Uncommon — 10 to 30; Common — 31 to 100; Abundant — over 100 individuals. These terms of relative abundance conform to Staton and Dixon (1977).

Results

We registered four species of snakes, eight of lizards and five of amphibians. The distribution and abundance of the registered species was variable.

Specific accounts

Amphibians:

Great Plains narrowmouth toad (*Gastrophryne olivacea*). Only one specimen was observed, at a point where drift fences were placed. Although this species seems to be common in arid habitats with scrub vegetation dominated by mesquites, creosote bush and grass (Degenhardt et al., 1996), it was rare in the dunes of Viesca. It is under status of special protection.

Great plains toad (*Bufo cognatus*). We found three toads at a single sampling point where drift fences were placed. Although it tend to be present in arid environments with shrubs and grass vegetation, in sand dunes habitats it may be uncommon because its larval development stage requires pools to persist approximately 40 days (Bragg, 1937; Turner, 2003). It is considered an efficient digger, which favors its permanency and distribution in sandy soils where it can be buried to escape from the heat and dryness (Bragg, 1940). It doesn't appear in the *Norma Oficial Mexicana* under status.

Western green toad (*Bufo debilis insidior*). Three toads of this species were found in two sampling points. Degenhardt et al. (1996) state that the natural history of this species is largely unknown. It has been found in grasslands below 1300 m. Zweifel (1968) found that the normal development of this species requires temperatures between 18.2 and 33.8°C. Their development is quicker at somewhat higher temperatures, which would indicate adaptation to arid environments like the dunes and nearby areas with less sandy soil. This amphibian is under special protection and its abundance was rare.

New Mexico spadefoot (*Spea multiplicata*). We found some patches with significant numbers of toads (> 100) in low areas covered with water during the 2003 rainy season. Unfortunately, some of the areas flooded in spring were modified for agriculture by the local inhabitants in the following season. This suggests that amphibian species of these areas possibly suffered a mortality rate much more intense than usual. Degenhardt et al. (1996) mention that this species is distributed in a wide variety of habitats, but requires pools to last more than three weeks for its complete development. Thus, flooding could cause a dramatic rebound in the natural populations of this toad in the dunes of Viesca. It is not protected.

Couch's spadefoot (*Scaphiopus couchii*). We found only one specimen in a sampling point. Although it is considered one of the most adapted toads to desertic environments (Degenhardt et al., 1996), in the dunes of Viesca we found *S. couchii* and *G. olivacea* to be the least abundant amphibians. Couch's spadefoot requires pools of at least ten days of duration (Mayhew, 1965; Dimmitt, 1990), to be able to develop efficiently. It is not protected.

Lizards:

Western whiptail lizard (*Aspidoscelis tigris*). This widely distributed lizard was found in more than a half of the visited points. It was observed with more frequency in areas with dense mesquite (*Prosopis glandulosa*) vegetation and was very abundant. It does not have any official ecological status.

Long-nosed leopard lizard (*Gambelia wislizenii*). This is the only lizard predator of other saurians in the dunes of Viesca. It has special protection status; its abundance was uncommon.

Side-blotched lizard (*Uta stejnegeri*). Formerly considered *Uta stansburiana stejnegeri* (Upton and Murphy, 1997), it is the most abundant species in the dune patches where the dominant vegetation is the seepweed (*Suaeda nigrescens*). It is not listed in the *Norma Oficial Mexicana*.

Coahuila fringe-toed lizard (*Uma exsul*). This abundant species is given special protection status, and it is the only endemic species of the dunes of Viesca. Its distribution is restricted exclusively to patches with abundant loose sand and with creosote bush (*Larrea tridentata*) vegetation. It is also the only species of the genus, sad to say, with no integral conservation program at the moment for its protection.

Texas horned lizard (*Phrynosoma cornutum*). We found more than seven horned lizards, all in contiguous areas of dunes with abundant mesquite (*P. glandulosa*). This species is considered as threatened and its abundance was rare. Local inhabitants collect this species illicitly from areas near the municipality of Viesca, and it is sold in markets of Torreón, Coahuila, where is commonly used for esoteric purposes.

Round-tailed horned lizard (*Phrynosoma modestum*). This lizard was registered in three sampling points, although its abundance was rare, but it was notable that there were observations up to three adults and two juveniles within 20 m of one

transect.

Desert spiny lizard (*Sceloporus magister*). This species was rare and observed only in two transects in areas with abundant seepweed (*Suaeda nigrescens*) in very compact soils without loose sand. They were also observed only in bushes with wide and dense covering. This species is not given any special status under Mexican federal laws (*Norma Oficial Mexicana*).

Texas banded gecko (*Coleonix brevis*). This is the only nocturnal eublepharid registered for this dune area. Although it was captured and observed only in one sampling point where the drift fences and pitfall traps were placed, it is possible that this lizard has a wide distribution inside dune patches under several types of dominant vegetation. This species is given special protection status. The basic ecology of the Mexican populations is largely unknown, and its abundance was rare.

Snakes:

Western diamondback rattlesnake (*Crotalus atrox*). In the dunes of Viesca, this is the only reptile dangerous to man. The five specimens registered were very near to human establishments. The ecological status designated for this species is subject to special protection (*Norma Oficial Mexicana*). Its abundance was rare.

Texas long-nosed snake (*Rhinocheilus lecontei*). Only one specimen of this species was found—2 km west of the town of Villa Bilbao. This species is not protected. The long-nosed snake abundance was rare.

Glossy snake (*Arizona elegans arenicola*). This species was seen in two areas of loose sand up to 10 cm in depth. One of the three live snakes observed showed a scar in the dorsal region of the body. Its abundance was rare. The *Norma Oficial Mexicana* does not show conservation status for this species.

Coachwhip snake (*Masticophis flagellum*). This colubrid was rare and the two specimens were observed in areas with dense mesquite vegetation (*P. glandulosa*). It is considered as threatened by the *Norma Oficial Mexicana* although it has a wide distribution in Mexico.

Discussion

In general, the dunes of Viesca have registered more species of diurnal lizards (7) than those in the dunes of Sandhills, Nebraska (4) (Ballinger et al., 1990), in the dunes of Mapimí (5) and the dunes of Repetek in Russia (6) (Gallina et al., 1985) but less than the sandy areas of the desert El Pinacate in Sonora México (Gonzales-Romero and Alvarez-Cardenas, 1989).

The registered amphibians represent an important factor that could indicate the state and the current integrity of some patches of these dunes. However, important changes in land use for agriculture were observed during the survey period, which possibly rebounded intensively and negatively on populations of some amphibians, e.g., *S. multiplicata*.

The results obtained in this work allow us to consider the sand dunes of Viesca, Coahuila, as a high diversity ecosystem for amphibian and reptile species. Likewise, due to the pressure of the human activities on this system and to the gradual and irregular growth of agriculture areas, it is necessary to improve a conservation plan that restricts the use and modification of the dune areas with high biological integrity. This plan should give priority to those with high abundance of potentially threatened species as the endemic lizard *Uma exsul* (according to Adest [1977] it is considered the oldest species of the genus), the horned lizards, and habitat area like the flood areas where the conservation of the amphibian populations is favored.

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Softshell Turtles (*Apalone* spp.) as Bald Eagle Prey

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Fish of many species make up the bulk of nesting bald eagle (*Haliaeetus leucocephalus*) diets. Birds and a few species of mammals also occur regularly as food items (McAtee, 1935; Smith, 1936; Bent, 1937; Imler and Kalmbach, 1955; Todd et al., 1982; Knight et al., 1990). Amphibians and reptiles have generally been reported as incidental food items (Ross, 1991, and references cited therein). Turtles, however, may provide a major food source for some eagle populations (e.g., occurring in up to 10-25% of diets; Clark, 1982; Lefranc and Cline, 1983). At least 11 species of turtles have been reported previously as incidental bald eagle prey (Table 1), including unidentified softshell turtle remains found in nests in Arizona (Rubinck and Podborny, 1976) and Florida (Broley, 1947). In addition, Grubb (1995) reports direct observations of bald eagles capturing spiny softshells (*Apalone spinifera*) in Arizona. To these records, I add an observation of a large number of spiny and smooth (*Apalone mutica*) softshell remains in a Wisconsin bald eagle nest.

Table 1. Turtles reported in bald eagle diets (based on this report; Imler and Kalmbach, 1955; Clark, 1982; Ross, 1991; and references cited therein).

Stinkpot (*Sternotherus odoratus*)
Snapping Turtle (*Chelydra serpentina*)
Painted Turtle (*Chrysemys picta*)
Spotted Turtle (*Clemmys guttata*)
Florida Red-bellied Cooter (*Pseudemys nelsoni*)
Map Turtles (*Graptemys* spp.)
Eastern Mud Turtle (*Kinosternon subrubrum*)
Sonora Mud Turtle (*Kinosternon sonoriense*)
Diamond-backed Terrapin (*Malaclemys terrapin*)
Eastern Box Turtle (*Terrapene carolina*)
Smooth Softshell (*Apalone mutica*)*
Spiny Softshell (*Apalone spinifera*)

* The present report appears to be the first of smooth softshell turtles as bald eagle prey.

In August 1997, biologists with the Wisconsin Department of Natural Resources noted nest contents while examining a storm-damaged eagle nest. The eagle pair had nested near Lone Rock along the lower Wisconsin River near the Richland-Sauk County border. This was the second nest in three years that the pair had lost to storm blow down, but biologists had noted an eaglet at the nest during a May survey flight.

The damaged nest, which was comprised largely of corn stalks, contained 36 softshell turtle shells. Populations of both smooth and spiny softshells occur in the Wisconsin River and both were found in the nest. Other prey items observed in the nest included wood duck (*Aix sponsa*) feathers, common raccoon (*Procyon lotor*) fur, numerous common carp (*Cyprinus carpio*) scales, squirrel (*Sciurus* spp.) skulls, and the vertebrae and lower jawbone of a week-old white-tailed deer (*Odocoileus virginianus*).

This observation suggests that softshell turtles comprise a greater portion of Wisconsin bald eagle diets than has been reported previously. We do not know, however, over what time period the eagles preyed on the softshell turtles or if additional turtle remains were lost when the nest was blown down. It is possible that the turtles were taken only during the spring nesting season, which extends from about 15 March to 15 May. If this is the case, the eagles consumed 4–5 softshells per week on average. It is also possible that the turtles were taken over the spring and summer. In which case, the eagles would have consumed approximately 2 turtles per week. Tabulations of nest contents do not allow an estimation of the biomass that turtles contribute to eagle diets, but the relatively large number of shells present in this nest does indicate that softshell turtles probably account for a significant and regular component of bald eagle diets in this study area.

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W. Ishmael, Bureau of Wildlife Management, Wisconsin Department of Natural Resources, Spring Green, shared his nest observations and field notes with me.

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HerPET-POURRI

by Ellin Beltz

Winner of the Speedy Clipper of the Year

A big thank-you to Nick Gould of *International Zoo News* who sent me an original March 6, 2004, *London Times* clipping of the three-headed frog discovered in England by children at play. Even with the photo online and this in the paper, I'm still undecided on whether these are real or *Rana photoshoppi*. The story says the beast was looked at by Marie Orchard, a frog expert at Bristol, the city's wildlife attraction, who "said that it was very unusual and from its size, probably at least two years old." Hopefully such an unusual animal will be photographed again!

Congratulations to Melissa Kaplan!

Her anapsid.org web page on collective nouns for types of animals was featured in the "NetWatch" column in *Science Magazine*, Volume 303, March 26, 2004. Herpers also know her site as a great place for captivity information. [from Eloise Mason] Visit it yourself at http://www.anapsid.org/beastly.html.

Thump, thump-thump, thump

Spanish researchers announce the discovery of what may be the largest plant-eating dinosaur ever found in Europe and equal in size to the Argentinean specimen which currently holds the title. They are scaling up from the 1.78-m upper arm bone and a 30-cm claw. The so far unnamed animal may have reached 35 m in length and weighed up to 50 tons. [*Science,* March 26, 2004, from Eloise Mason]

What was she thinking?

A 4-foot gator crossing the road in Lacoochee, Florida, was captured by middle and high school students who persuaded their school bus driver not only to stop, but to let them take it home on the bus! No one, including the alligator, was hurt, but school officials were astonished that any of this happened at all. [*Orlando Sentinel*, March 1, 2004, from Bill Burnett]

One too many, once too many times

"Boonreung Buachan, who held the *Guinness World Records* title for spending the most time penned up with snakes, was killed by a cobra bite in Thailand. . . . [Age] 34, he was showing villagers a new cobra when he was bitten. He took herbal medicine and a shot of whiskey and continued with the show until he collapsed. . . . [He won his *GWR* title] after spending seven days in an enclosure with snakes in 1998." [*USA Today*, March 23, 2004]

Wish I could fit in his luggage, don't you?

I don't know if newspaper "vu" has ever struck you, as a lovely story about Peter Pritchard did me. I met Peter a long time ago when we were both young. I was fascinated by his work with turtles, and grateful for his escort to Canterbury Cathedral during the First World Congress of Herpetology. Now comes an article from the *Orlando Sentinel*, outlining Peter's many accomplishments during his life of research into turtles and tortoises worldwide. The article particularly mentioned his book *The Encyclopedia of Turtles* and being named a "hero of the planet" by *Time Magazine* in 2000. The latter factoid was missed by my worldwide clippers and, of course, Peter's innate modesty probably prevented him sending me a copy. This fall he's going to the Galapagos Islands again, searching for the Pinta Giant tortoise. [March 19, 2004, from Bill Burnett] On my first quick read, I realized "Wow, I've known Peter since he was my age!" Time flies for us as well as for all species.

Almost too much information

Toad Suck Daze was listed in the *Runner's World* calendar of runs around the U.S. The festival includes a 5K and 10K run and a Tadpole Trot for the larval set. Registering for the race gets you a T-shirt. But then, you have to get there and run! Details are on their website http://www.arkansasrunner.com. [*Little Rock Democrat-Gazette*, April 5, 2004, from Bill Bur-

nett] The name comes from local legend about boatmen tying up while navigating locks on the Arkansas River apparently getting so drunk in local taverns they'd puff up like toads. There is even a Toad Suck Lock and Dam where all this allegedly occurred.

Coqui-Lime Pie anyone?
Hydrated lime, the latest idea in the battle against self-introduced coqui frogs, *Eleutherodactylus coqui*, in Hawai'i still needs EPA approval. The currently approved treatment, a citric acid spray, is expensive and harder to apply than slaked lime. Citric acid also burns plants which reduces its desirability to plant growers. It is currently used as a soil amendment. [*Honolulu Advertiser*, March 29, 2004, from Ms. G. E. Chow]

Ouch!
"Police charged a 20-year-old man with shoplifting two tiger pythons from . . . a pet shop. His bad judgment wasn't the immediate reason he was caught, but after officers found the stolen snakes in his house, he admitted that his getaway had been poorly planned: as he drove home, one of the snakes wriggled out of the canvas bag he'd sewn into his pants pocket, wrapped itself around his leg and bit him on the scrotum." [*News of the Weird,* by Chuck Shepherd, *Chicago Reader*, February 6, 2004, from MaryBeth Trilling]

Alive but blind
A green sea turtle blinded after a dog attack September 9, 2003, in St. Croix, Virgin Islands, is doing very well at Theater of the Sea in Islamorada, Florida. She was attacked while trying to lay eggs. By the time she was flown to Marathon Turtle Hospital in Florida, she had resorbed the eggs. She will have to spend the rest of her life in captivity as she is unable to fend for herself in the wild. [*Virgin Islands Daily News*, February 25, 2004, from J. Christianson]

Welcome to my larder . . .
A receptionist in Bloemfontein, South Africa, was shocked when she found a 14-centimeter-long, nonvenomous Aurora house snake entangled in the web of a huge deadly female brown button spider. An expert said it was only the second time he'd heard of a spider ensnaring a snake. They watched the spider roll it up and spin a web around it while snacking on it and pulling it higher up to the ceiling. [*South Africa News*, February 11, 2004, from Wes von Papineäu]

Arrivaderci!
Venezuela released tens of thousands of protected Arrau turtles into the wild in early April. This batch was released as part of a ten-year program which has already released more than 166,000 turtles. [*GreenLines* 2083, April 8, 2004]

Timmy the tortoise dies aged 160
"A tortoise who was a ship's mascot in the Crimean War has died at his Devon castle home at the age of 160. Timothy, who was first discovered on board a Portuguese vessel in 1854, was thought to be the country's oldest resident. He lived at Powderham Castle near Exeter and was owned by Lady Gabrielle Courtenay, 91. He arrived there fully grown in the late 19th century. The castle's rose garden had been his home since 1935. He was also believed to be the oldest Mediterranean spur-thighed tortoise in existence. Timothy was believed to be able to recognize people's voices." He was 26 when the first postcard was sent, 60 when *Peter Pan* premiered and 157 when the new century started. "Timothy, who weighed 11 pounds (5 kilos), was found 160 years ago on board a Portuguese privateer by Captain John Courtenay Everard of the Royal Navy, a relative of the 10th Earl of Devon. He then stayed aboard a succession of naval vessels until given a life ashore in 1892 and was looked after by the members of the Courtenay family ever since. In recent years, he wore a tag reading: `My name is Timothy. I am very old—please do not pick me up.' . . . Timothy showed a keen instinct for survival, even digging his own air raid shelter under a set of terrace steps during World War II after feeling the vibrations of bombs in Exeter. . . . Lady Devon said he would be very much missed. `You could call him, and he would come and say hello and have a strawberry.' He is to be buried at a family funeral in the grounds of the [600-year-old Powderham] castle." [BBC News, April 7, 2004, from Wes von Papineäu]

Indiana Biologists Find Mole Salamanders
A breeding colony of 23 mole salamanders were found among huge bald cypresses in a swamp in Posey County after a few were caught in a live trap intended for another species of salamanders. How they arrived in Indiana is a mystery. They could have gotten there by themselves, or in a flood. The nearest populations are in Illinois, western Kentucky and Missouri. [*Herp Digest*, April 4, 2004, from Allen Salzberg]

Road must go through
"The March 30 *Evansville Courier-Press* reported that federal highway officials [approved the construction of proposed Interstate 69] through 142 miles of central and southwest Indiana. This road, also known as the NAFTA Highway, will destroy wetlands, forests, watersheds, and disturb underground caves. These natural features are known habitat for endangered gray and Indiana bats as well many endangered mussel species." [GreenLines 2077, March 31, 2004]

Fangs a lot guys

- "Chemists have stumbled on a bizarre source for a useful detergent: poisonous snake venom. Enzymes in the Florida cottonmouth's spit dislodge bloodstains from clothes, researchers this week told a meeting of the American Chemical Society in Anaheim, California. . . . [The researcher] says his venomous enzyme works by cleaving the mass of fibrin molecules that form a scab over a wound. The snake product, if mixed with other enzymes, might be able to remove bloodstains completely." [*Nature News Service*, March 30, 2004]

- "A natural compound in some snake venom could help prevent the growth of cancerous tumors, researchers said today. The compound helps destroy cells which make up blood vessels that supply nutrients to tumors. . . . University of South Australia researchers said . . . malignant tumors were abnormal living tissues with rapidly dividing cells that grow

and feed off nutrients and oxygen via the normal blood supply surrounding the tumors. . . . The researchers said ` Research into the use of snake venom for treating tumors is not new and continues on a global scale. (But) the major difference is that [we] have identified in some venoms a compound that can be used in very low concentrations. This means that the toxicity is much lower and it only affects the cells that we are interested in.' . . . Researchers have been separating the snake venoms into components and determining their effect on the cells. . . . [They] expect significant results within two years from the ongoing research." [*The Sydney Australian*, March 30, 2004, from Wes von Papineäu]

Draco-nian penalties await illegals

"Owners of exotic reptiles face up to five years in jail if caught in possession of imported animals. Illegal owners and traders are the target in a tough national crackdown on the ownership of the reptiles that are smuggled into Australia. Yesterday, [the] federal Environment and Heritage Minister . . . launched the eight-week amnesty that starts today. Pet owners have until May 24 to surrender their reptiles or face jail and fines up to $110,000 [about $50,000 US]. . . . The *Herald Sun* believes several thousand people could benefit in the amnesty. Most of the reptiles are smuggled into the country by traders who go to great lengths to get them through customs. Reptiles in demand include snakes, crocodiles, lizards, alligators and turtles. . . . Melbourne University's Australian Venom Research Unit said keeping exotic animals can have fatal consequences. . . . Most medical clinics don't have antivenom for exotic reptiles, making bites untreatable. [Melbourne, Australia *Herald Sun*, March 29, 2004]

6 billion and continuing to grow

• "BBC Online, March 29, reported that the United Nations Environment Program . . . [said] that dead zones on all continents (except Antarctica) are threatening the world's fisheries due to excessive nitrogen released in waterways by humans and deposited in oceans. Coupled with exploitative fishing techniques, many fisheries are threatened with extinction. [GreenLines 2076, March 30, 2004]

• Melting of the Greenland Ice Cap continues; sea level may go up 7 meters in 50 to 100 years when it all melts. [*Nature* online, March 29, 2004]

• "Research on a number of invasive plants revealed harmful effects on not only American toads but spotted salamanders, red-backed salamanders and gray tree toads. . . . Loosestrife, native to Europe, is probably the most familiar of these invading plants across much of North America. It is high in tannin, a chemical that affects toads by interrupting digestion. *Phragmites*, another invasive water plant common along the Lake Erie shoreline, is poison to some salamander species. And gray treefrogs are hurt by an invader known as Japanese knotweed." [*Pittsburgh Post Gazette*, March 15, 2004, from Allen Salzberg in *HerpDigest,* March 25, 2004]

Stakeholders help snake

Eight state and federal agencies signed a conservation agreement "to define future actions to help protect" the Louisiana pine snake, according to the *Leesville Daily Leader*, March 5, 2004. The ESA candidate species "historically ranged throughout the longleaf pine ecosystem of western Louisiana and east-central Texas" but now survives "in only a few locations in each state and may well be one of the rarest snakes in the U.S." The voluntary agreement provides a framework for the agencies to work together to minimize impacts on the snake, exchange information on successful management practices and coordinate research efforts. "It is an ideal example of dealing with a complex issue by developing a partnership of forward looking people to find the right tools to help conserve a rare species," said the USFWS. [GreenLines 2067, March 17, 2004]

Just to film car commercials?

"The considerable ambitions of [California City, a] dusty speck in the western Mojave Desert may have been thwarted by a ground squirrel, a tortoise and six angry landowners. The state's third-largest city in land area, with a population of about 10,000, California City has been annexing its way across the high desert and now covers more than 200 square miles. Few noticed until the city annexed, then condemned, 4,500 acres of Kern County desert to make way for a Hyundai auto proving grounds that would add $500,000 to the town's small tax base. . . . But the more significant roadblock to the $50-million project could be two homely, rare animal species that live in this part of the high desert. Hyundai intends to bulldoze the ground for its 6.4-mile oval track on top of burrows for the protected California desert tortoise and the Mojave ground squirrel. The state and federal governments have approved the project, but conservation groups have challenged it in court. That litigation, too, is pending." [*Los Angeles Times*, March 15, 2004, from Michael J. Connor]

Profile of extinction

One third of the global total, 24 Kihansi spray toads at Toledo Zoo may help keep their species from oblivion. First discovered in 1996 by the tens of thousands, a January 2004 trip scared the researchers. One said, "We saw one very skinny male, two females, and I heard two other males calling." The other toads are at the former Bronx Zoo, now known as the Wildlife Conservation Society. The program began with the 2000 importation of 538 spray toads from Tanzania. Their habitat was a fast flowing river, with 250-foot high waterfalls spraying cool mist into a unique ecosystem. Also in 2000, the World Bank loaned Tanzania money to dam the river to provide hydroelectric power. Now only a drip falls over the lip of the waterfall "into the gorge that was home to thousands of spray toads. The animals had lived in a tiny paradise, their entire equatorial existence a gift of the mist rising from the cataract. Perfectly adapted for this small niche, the toads were devastated when it was cut off. They crowded along the edge of the river, surviving on the thinnest slice of their territory. To save this remnant, narrow pipes sprayed the toad habitat with water. It worked for awhile. Toad numbers rose from a low of 2,000 to as many as 17,000 in 2003. Then disaster struck. A fungus that has slaughtered frogs around the globe invaded the Kihansi.

Meanwhile, the captive toads were dying too. They came from the wild with lungworms. Half the founding population died before veterinarians gained control. Despite this, the animals bred vigorously. Nearly 700 were born at the Bronx Zoo." The zoo started distributing them to other zoos, but disaster after disaster struck. Toledo had luck and so the remaining toads went to Toledo. They blame their success on luck and skill.

"First, there was dumb luck. . . . In looking for plants to carpet toad homes, [the curator] stumbled on the exact species of club moss the animals live with in Africa. . . . [Then] determination. . . . Looking at the skinny, fragile toads . . . [he] surmised the animals weren't getting the right light. Without proper ultraviolet light, the animals cannot metabolize calcium. In an extensive search, [the curator] sussed out the right bulb. A World Bank representative said the institution plans to cover captive breeding costs at the zoos for at least six months, and possibly longer. But even if money is forthcoming, success is far from assured. . . .

`This is our last-ditch effort. This is our Alamo. It's a little too late, basically, or maybe a lot too late.'" [HerpDigest, March, 10, 2004, by Allen Salzberg]

Thanks to everyone who contributed this month and to MaryBeth Trilling who always decorates her envelopes with cute frog jokes. You can contribute, too. Send articles about herps that show up in the papers and magazines you read. Just clip the whole page—there's no need to trim, newspaper is incredibly cheap to mail. Fold and put in the biggest envelopes you feel comfortable using (less folding/unfolding) and mail to me: Ellin Beltz, POB 1125, Ferndale, CA 95536-1125. Letters only to my E-mail, please put something obvious in the header like "CHS Column—adoration of columnist" so you get through my virus checker and my sometimes-too-fast delete finger.

Unofficial Minutes of the CHS Board Meeting, March 19, 2004

Lori King called the meeting to order at 7:44 P.M. Board members Matt Campbell and Jenny Vollman were absent.

Officers' Reports

Recording Secretary: Melanie Aspan read the minutes of the February 13 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman presented the balance sheet and the 2004 budget. It was agreed that the budget would be discussed in further detail at the April Board meeting.

Membership Secretary: Mike Dloogatch presented the membership chart and noted that the drop-off during February 2004 is likely due to individuals who joined in 2003 in order to be eligible for CHS grants who are now allowing their memberships to lapse.

Vice-President: The speaker for the March General Meeting, Danté Fenolio, will present: "A Narrative of Biodiversity after 25 Years of Field Experience."

Corresponding Secretary: Steve Spitzer brought new CHS stationery and envelopes with him to the meeting and offered them to any Board member who had a use for them. He also announced that he had sent out letters soliciting raffle items.

Publications Seretary: Betsy Davis reported that she has spoken to the webmaster for the CHS website about her goals for using the site to its best advantage. She has also spoken to both Dr. Byron De La Navarre and Dr. Steve Barten about possibly contributing to a vet column on the site.

Sergeant-at-arms: Brian Jones reported that there were 66 attendees at the February General Meeting.

Committee Reports

ReptileFest: Jack Schoenfelder presented a list of nine NW Indiana newspapers that received fliers for ReptileFest. He also reported that the *Post-Tribune* would be dedicating the front page of its Weekend Section to an interview with him. John Bailey reported that fourteen vendor tables have been booked so far to eight individual vendors. Ed Rzewnicki mentioned that someone should look into setting up a confirmation system to acknowledge receipt of ReptileFest application forms from the CHS website.

Shows: Lori King presented additional weekend dates that the Notebaert Museum would like us to attend. She mentioned that Jenny Vollman will not be available to coordinate the first weekends of May and June and asked for volunteers. Melanie Aspan volunteered to coordinate the show on May 1–2. Steve Sullivan announced that the next new exhibit the Notebaert Museum will be mounting will be "Crime Scene Insects."

Library: Steve Sullivan announced that he has built a database consisting of 80 library books which he hopes to use in future for electronic check-out. He also related to the Board that he has made his first new purchase for the library using the

money allocated at February's meeting.

Conservation: Lori King announced that Eric Tobin from the Michigan Society of Herpetologists is interested in selling T-shirts with the CHS's massasauga conservation design. Proceeds from their sales would be used for massasauga conservation. Lori also announced that seventeen acres of land located on Little Cayman Island has been purchased by the IRCF for their conservation efforts there. The funds raised by the CHS have been used to purchase PIT tags for the new hatchlings. Lori also asked that $545 be allocated to purchasing 50 T-shirts which will feature a design promoting the conservation efforts surrounding the blue iguanas. These shirts will be sold at Reptilefest and other CHS events with profits going to support the Blue Iguana Recovery Program. Brian Jones made a motion to allocate these monies, Betsy Davis seconded the motion, and the motion was passed with Jim Hoffman opposed and Steve Spitzer abstaining.

Old Business

Salamander Safari: Mike Dloogatch moved to allocate $30 for refreshments at the Salamander Safari on March 27. Brian Jones seconded, and the motion was passed with John Bailey abstaining, Jim Hoffman in favor only if bananas were purchased as well as doughnuts, and all others in favor unconditionally. Linda Malawy suggested that a donations jar be left out for any participants who wanted to contribute to the CHS.

State Reptile/Amphibian: It was announced that some legislators involved in this matter are expected to attend the Salamander Safari on March 27.

Proposed Chicago Animal Ban Ordinance: Lori announced that the committee should be meeting soon.

General Meeting Short Presentations: There was no presentation at the February meeting, but Ron Humbert is set to make the presentation at the March meeting. Steve Sullivan announced that the Notebaert Museum's exhibit "When Crocodiles Ruled" will be open to our members the night of the March general meeting.

Book Sales: The Board discussed the fact that no accounting or inventory has been delivered as promised regarding the 2003 book sales handled by Joan Moore. Jim Hoffman presented a newly received invoice for some of these books that cannot be located at this time. It was agreed that the invoice should be paid and noted that the Board is generally displeased not to have received the final report on this matter.

Zoo Trip: Alternative ideas are being considered after an overnight trip garnered little interest.

New Business

Bibliomania: Mike Dloogatch announced that Breck Bartholomew is offering to help the CHS raise funds through book sales. Members can circulate the order form, and 15% of all orders sent in on this form will be donated to the CHS. Melanie Aspan offered to make color copies of the form for distribution at meetings and ReptileFest.

ILDNR Budget Cuts: Lori King related to the Board that she has left a message for Governor Blagojevich regarding this issue and it was agreed that a letter-writing campaign similar to that enacted to attack the Chicago Animal Ban should be put into effect.

Ideas and Suggestions

Balance Sheet: Jim Hoffman offered to take time to discuss reformatting the balance sheet he presents each month to better accommodate the Board members' expectations.

The meeting was adjourned at 10:14 P.M.

Respectfully submitted by Melanie Aspan, Recording Secretary.

News and Announcements

2004 CHS GRANT RECIPIENTS

The CHS Grants Committee is pleased to announce the CHS grant recipients for 2004. The committee consisted of Stephen Barten, Michael Dloogatch and Lori King. This year we received 21 applications. After a difficult decision process, five grants were awarded, in varying amounts, as follows:

- **Amy Cunkelman**, Department of Biology, Villanova University. "Radio Telemetry to Examine Habitat Utilization in *Rhacodactylus leachianus* and *Rhacodactylus trachyrhynchus*." $500.00.
- **Karen Davis**, University of Tennessee. "Numerical Discrimination and Cognitive Abilities in Turtles (*Pseudemys nelsoni*)." $500.00.
- **Timothy Hunkapiller**, Illinois Natural History Survey. "Reproductive Ecology of the Wood Frog (*Rana sylvatica*)." $317.20.
- **Deb Krohn**, Plum Creek Nature Center, Forest Preserve District of Will County. "Skeletal Herpetological Specimens for Student Educational Programs." $452.00.
- **Michael Malawy**, School of Life Sciences, Arizona State University. "An Investigation into Selected Body Temperature and Post-Prandial responses of the Western Diamond-backed Rattlesnake, *Crotalus atrox*." $500.00.

Herpetology 2004

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

RAINBOW SKINK BEHAVIOR PATTERNS

T. Langkilde et al. [2003, The Herpetological Journal 13: 141-148] derived an ethogram for male rainbow skinks, *Carlia jarnoldae* (mean snout–vent length 44 mm), from observations of captive individuals in large, semi-natural field enclosures during the summer. Males were observed in one of four treatments: solitary; socially with a male conspecific; socially with a female conspecific; or with a model of an avian predator. The authors identified 32 different types of behavior, including postures and simple movements. Six of the behaviors (dorsolateral orientation, head bob, letisimulation, slow motion, throat flash and tail wave) are of particular interest because their functions are either controversial or unknown. These are described in detail, and their functional significance is inferred from the contexts in which they occurred. Dorsolateral orientation and slow motion behaviors appear to function primarily in courtship; throat flashes may provide information to conspecifics; and letisimulation may function as an antipredator behavior. The function of head bobs remains unresolved, and tail waves appear to signal residency, but need further investigation. Although the behaviors exhibited by *C. jarnoldae* males were generally similar to those reported in other skinks, two of the behaviors observed (letisimulation and throat flash) have not previously been recorded in a skink. *Carlia jarnoldae* males were outside refugia for most observation periods, and appeared to defend areas of the enclosures from conspecific males. Both visual signals (dorsolateral orientations, slow-motion behavior and throat flashes) and chemical cues were used to communicate with conspecifics.

CAPE GRASS LIZARD LIFE HISTORY

A. du Toit et al. [2003, Amphibia–Reptilia 24(4):471-482] investigated life history characters of the Cape grass lizard, *Cordylus anguinus*, and related them to survival in the fire-prone habitat in which it occurs. Unlike in other cordylids, reproductive activity was found to be asynchronous among females, with vitellogenic and gravid females encountered virtually throughout the year. Aseasonal breeding will circumvent reduction or complete loss of reproductive effort for any given year due to fire. Female grass lizards attain significantly larger body sizes than males. Clutch size ranged from three to seventeen and was positively correlated with snout–vent length. Maximum clutch size is more than three times that recorded for any other cordylid. The authors suggest that high fecundity allows quick recruitment after a fire. To determine the reproductive cycle exhibited by males, testicular volume and seminiferous tubule diameter were measured, and spermatogenic activity assessed qualitatively, using Licht's classification system. The data indicate that *C. anguinus* has a post-nuptial spermatogenic cycle. The species differs from other cordylids having a postnuptial cycle, in that spermatogenesis commences in spring.

DIGESTIVE ABILITIES OF BULLFROG TADPOLES

G. S. Pryor [2003, J. Herpetology 37(3):560-566] reports that although there are many accounts of the diversity of algae consumed by anuran larvae, growth and digestive responses of tadpoles fed algae have been poorly studied. In this study, growth rates and digestive abilities of larval bullfrogs (*Rana catesbeiana*) fed monospecific algal diets were investigated. The four algal species used in feeding trials were *Selenastrum capricornutum*, *Microcystis incerta*, *Anabaena flos-aquae*, and *Ulothrix coniferricola*. The filamentous blue-green alga *Anabaena flos-aquae* was the only alga that promoted growth in tadpoles and was digested more thoroughly than the other algae. Ability of tadpoles to digest nuisance, bloom-forming algae such as *Anabaena* has important implications in freshwater resource management. Such results also contribute to a better understanding of the roles tadpoles play in nutrient cycling, their potential to combat eutrophication, and their influence on primary productivity in freshwater ecosystems.

SALAMANDER SAMPLING BIASES

D. M. Marsh and M. A. Goicochea [2003, J. Herpetology 37(3): 460-466] note that arrays of wood cover boards are useful tools for studying and monitoring plethodontid salamander populations. However, little is known about the biases inherent in monitoring data collected from such arrays. The authors used red-backed salamanders, *Plethodon cinereus*, to test for two potential biases associated with use of wood cover board arrays. First, they tested whether frequent sampling of arrays can cause reduced counts of salamanders, resulting in the appearance of population declines where none exist. Second, they tested whether salamanders found under wood cover boards differed from salamanders found under natural cover objects in terms of sex ratios, stage class ratios, and snout–vent length (SVL). Sampling cover boards daily substantially reduced salamander counts under cover objects; this result was pronounced for adults but not for juveniles. No decrease in counts was found with sampling cover boards weekly as compared to sampling every three weeks. With respect to differences between salamanders found underneath cover boards versus natural cover objects, samples from under cover boards contained higher proportions of adults and lower proportions of juveniles and hatchlings than did natural cover objects. This was true in both the spring and fall. There were no differences in sex ratios or in SVL within stage classes for salamanders in cover boards versus natural cover objects. These results suggest that cover boards used for monitoring or for studies of ecology and behavior should be sampled no more than once per week if natural levels of movement and territoriality are desired. Additionally, although cover board arrays may be suitable for tracking relative changes in overall population size, bias among size classes may make cover boards less than ideal tools for studies of salamander demography.

NEWT EGG-LAYING BEHAVIOR

G. Orizaola and F. Braña [2003, The Herpetological Journal 13:121-124] note that many animals develop some kind of parental care in order to protect eggs or offspring from predation. Female newts (genus *Triturus*) protect eggs from predators by wrapping them individually in plant leaves. The authors studied oviposition characteristics of four newt species inhabiting the northern Iberian Peninsula (marbled newt, *Triturus marmoratus*; alpine newt, *T. alpestris*; palmate newt, *T. helveticus* and Bosca's newt, *T. boscai*). All of these species are able to wrap their eggs in aquatic plants in laboratory experiments, but—whereas *T. marmoratus*, *T. alpestris* and *T. helveticus* wrapped more than 90% of their eggs—*T. boscai* covered only half of the eggs completely with leaves. *T. boscai* is found in running waters more frequently than the other species, and lays larger eggs relative to female size, as is typical of running water urodeles. A parallel experiment exposing newt eggs to predation by larvae of the dragonfly *Aeshna cyanea*, demonstrated the protective value of wrapping behavior. About half of the unwrapped eggs were consumed, whereas protected eggs remained almost unattacked.

REPTILES OF URBAN ROME

L. Rugiero [2004, Herpetozoa 16(3/4):151-155] from March 2001 to July 2002, investigated the composition of the reptile communities of five protected areas situated in the urban area of Rome (Italy). These study areas ranged from 204 to 774 hectares in size and were isolated from adjacent natural habitats to different degrees. The reptile communities observed were composed of 8 to 13 species, and constantly dominated by some very adaptive forms, i.e., the saurians *Lacerta bilineata*, *Podarcis muralis*, *P. sicula* and *Chalcides chalcides*, and the snake *Hierophis viridiflavus*. Tortoises and most snake species were rare in the various study areas, but at least in one reserve there was a reproductive population of the vulnerable species *Testudo hermanni*. Size, isolation degree and presence of woodlands seemed to be important factors for the survival of reptile communities in these urban protected areas.

LEOPARD FROG EGGS AND PREDATORS

D. Saenz et al. [2003, Copeia 2003(3):646-649] note that phenotypic plasticity, such as morphological and behavioral changes in response to predators, is common in larval anurans. Less is known about inducible defenses in the embryonic stages of development. The authors investigated the predation risk imposed by crayfish (*Procambarus nigrocinctus*) on southern leopard frog (*Rana sphenocephala*) eggs and whether crayfish presence induces a change in the timing of hatching of *R. sphenocephala* eggs. They found that crayfish significantly reduce the hatching success of *R. sphenocephala* eggs by eating them and that eggs hatch significantly faster in the presence of crayfish than when crayfish are not present. They also found that the nonlethal presence of crayfish (caged with no access to eggs) induced accelerated hatching, indicating that injured conspecifics are not required to elicit the response. Reception of chemical cues produced or released by crayfish may play an important role in survival of *R. sphenocephala* eggs.

GOPHER TORTOISE MOVEMENTS

J. O. Eubanks et al. [2003, Herpetologica 59(3):311-321] investigated movement and burrow use patterns from May 1997 through May 1998 in a gopher tortoise population (n = 123) within a 100-ha study site of high quality (old trees, ground cover intact, growing-season fire regime) longleaf pine-wiregrass habitat located in Baker County, Georgia. Telemetered females moved more frequently in summer months (June–October) but traveled longer distances in September than during other months of the 1997 active season. Males exhibited a peak in movement during August and September 1997 that corresponded with mating activity. The longest distance moved between tracking locations did not differ between males and females, but mean distance per move, number of burrows used, and annual home range size were greater in males than in females. The maximum distance moved by an individual during an active season was negatively correlated with female body size but not male body size. No such relationship was found between body size and number of burrows used by either females or males. Similarly, no relationship was found between body size and annual home range area of adult females and males. This study provides the most complete estimate of annual home range size of gopher tortoises. Because these data describe movements in an area that retains features of the ancestral habitat, these estimates are the best available for designing reserve areas for this threatened species.

AMPHIBIAN ROAD MORTALITY

M. J. Mazerolle [2004, Herpetologica 60(1):45-53] notes that pond-breeding amphibians frequently encounter roads during their movements across the landscape to reach their breeding, summering or hibernation sites. Night driving surveys conducted each summer from 1995 to 2002 on a 20-km stretch of secondary road within a national park of eastern Canada were used to evaluate whether road traffic had cumulative effects on amphibian abundance over this period. The study also looked at the effect of nightly variations in traffic intensity on the number of amphibians killed on the road. A total of 4643 amphibian crossing events were recorded during the 37 surveys. Over the eight years no trend was detected of decreasing abundance for amphibian roadside populations. The number of dead American toads (*Bufo americanus*) increased with increasing traffic intensity. The number of ranid frogs (*Rana clamitans*, *R. pipiens* and *R. sylvatica*) dead on the road was greatest when many individuals were moving on the road and at moderate traffic intensities (approximately 10–18 vehicles/h). In contrast, spring peepers (*Pseudacris crucifer*) dead on the road increased with decreasing traffic intensity. The number of ambystomatid salamanders (*Ambystoma laterale* and *A. maculatum*) dead on the road, on the other hand, did not respond to traffic intensity. Nonetheless, results indicate that subtle variations in traffic intensity such as those observed in this study (i.e., 5–26 vehicles/h) can increase mortality on the road for certain amphibian species. Future studies in landscape ecology should routinely consider measures associated with roads, such as the proximity and density of roads, when investigating amphibian abundance patterns in wetlands.

AMBUSH SITE SELECTION BY A DESERT SNAKE

H. Tsairi and A. Bouskila [2004, Herpetologica 60(1):13-23] note that the selection of an appropriate ambush site by a sit-and-wait predator is necessary for maintaining an adequate energy intake for survival and for future reproduction, especially when events are of long duration. The authors tested whether the snake *Echis coloratus* (Viperidae), a sit-and-wait predator, selects specific ambush sites in an oasis setting. They characterized the sites used by 22 individuals near a desert spring and compared them to randomly selected available sites. Ambush sites were not random; they were usually located <5 m from water on raised objects. Females, but not males, occurred more frequently under cover than expected by random choice. Field observations did not allow determination of the cues that lead the snakes to locate their ambush. Thus, semi-natural enclosures were used to test the hypothesis that *E. coloratus* uses prey chemical cues when selecting its ambush sites. Most ambushes were located in sites with cover, whether the odor of gerbils was present or not. Even when odors from additional prey species were presented, there was no preference for sites with odor over control sites. The results suggest that *E. coloratus* at the oasis set ambushes in microhabitats that provide cover, high probability for encounters with prey, and, possibly, a physiologically convenient humid environment. The cues used by *E. coloratus* for predicting future prey availability seem to be the structure of the microhabitat rather than prey odor.

EFFECTS OF INTRODUCED BULLFROGS

C. A. Pearl et al. [2004, Copeia 2004(1):11-20] note that introduced American bullfrogs (*Rana catesbeiana*) have become widely established in the Pacific Northwest over the last century and are thought to be an important predator of native amphibians throughout the western United States. The northern red-legged frog (*Rana aurora aurora*) and Oregon spotted frog (*Rana pretiosa*) historically coexisted in portions of the Pacific Northwest now invaded by *R. catesbeiana*, but *R. pretiosa* has declined more severely than *R. a. aurora*. The authors investigated whether microhabitat and behavioral differences that facilitate sympatric coexistence of the natives predict which species is more susceptible to predation by introduced *R. catesbeiana*. Laboratory experiments demonstrate that *R. catesbeiana* adults prefer aquatic microhabitats, that *R. pretiosa* juveniles are more aquatic than *R. a. aurora*, and that adult *R. catesbeiana* consume more *R. pretiosa* than *R. a. aurora* juveniles. Mean and maximum jump distances of *R. pretiosa* were shorter than equally sized *R. a. aurora*, and the difference between these two species increased with larger frog sizes. Examination of field survey data indicates that *R. pretiosa* coexist with *R. catesbeiana* less frequently than *R. a. aurora*. The authors conclude that *R. catesbeiana* is a greater threat to survival of *R. pretiosa* than to *R. a. aurora* and suggest that microhabitat use and escape abilities of native ranid frogs may be linked to this asymmetrical effect. Analysis of behavioral and microhabitat differences among related native species may be a useful tool in predicting the effects of introduced predators on amphibians and can assist in developing conservation priorities for these species.

FOREST RACER ECOLOGY

P. J. Stafford [2003, The Herpetological Journal 13:101-111] describes and compares aspects of ecology for three species of the Neotropical colubrid genus *Dendrophidion*: *D. nuchale*, *D. percarinatum* and *D. vinitor*. These slender, racer-like snakes of Central American rainforests have overlapping distributions and similar, relatively specialized diets. Within each species, over 50% of prey items recovered from museum specimens were leptodactylid frogs. *Dendrophidion vinitor* is a small species that feeds almost entirely on these anurans (> 90% by frequency), whereas *D. nuchale* and *D. percarinatum* are larger forms that in addition to frogs also eat lizards, mostly anoles (Polychrotidae). Sample numbers were limited and the dietary data insufficient for conclusive analysis, but niche separation based on this taxonomic difference in food habits—and also prey size (larger mean prey volume in *D. nuchale*)—may be important for these snakes in areas of co-occurrence. Reproductive data for *D. percarinatum* and *D. vinitor* in lower Central America suggest an extended or possibly continuous cycle and the production in individual females of more than one clutch per year. The intensity of reproduction in all three species, however, is likely to fluctuate with annual variation in rainfall and prey availability. *Dendrophidion percarinatum* shows a much higher frequency of tail breakage than *D. nuchale* or *D. vinitor*, suggesting that predation pressure in this species is relatively more intense.

LIZARDS OF THE PONDEROSA PINE FOREST

S. S. Germaine and H. L. Germaine [2003, J. Herpetology 37(4):645-652] assessed relative abundance, demographic, and reproductive success data for two lizard species in a northern Arizona ponderosa pine forest, a fire-dependent system unnaturally modified by fire suppression over the past century. During May to October 1997–1999, up to 70 pitfall arrays were employed to sample lizards over 6990 array-days. At each array, macro-vegetative cover, stand, and microhabitat characteristics were described. Common sagebrush lizards, *Sceloporus graciosus*, responded to habitat variation at all three spatial scales. Adult *S. graciosus* were widely distributed among cover and stand types. However, reproductive success and hatchling abundance were highest in the most open cover (meadow) and stand (savannah) types, and lowest in pure ponderosa cover and dense ponderosa stands. Adult females replaced themselves annually only in meadows, savannahs, and forest with a deciduous component. Adult and juvenile western skinks, *Eumeces skiltonianus*, were least abundant in meadows, but females replaced themselves each year in meadow and ponderosa-pinyon-juniper vegetative cover and in savannahs. Hatchlings were least abundant in intermediate- and high-density ponderosa stands, whereas juveniles of both species were most abundant in areas containing a deciduous tree component. Increased tree densities, canopy closure, and litter accumulation influenced distributions of both lizards. Furthermore, abundance and reproduction in these lizards were generally optimized in habitat with features most similar to that present prior to fire suppression activities and in areas containing a deciduous tree component.

AGE STRUCTURE OF AN EXTINCT SKINK

F. Andreone and F. M. Guarino [2003, Amphibia–Reptilia 24(4):459-470] studied the age structure of the extinct giant Cape Verde skink, *Macroscincus coctei*, using skeletochronology applied to 11 preserved males, 15 females, and one juvenile, collected at the end of the 19th century. Counts of lines of arrested growth (LAGS) indicated that in this species—which lived on islets with extreme natural conditions (e.g., hard aridity, lack of rainfall)—the estimated maximum life span was 16 years for males and 12 years for females; the single juvenile was 4 years old. Although the sexes had similar mean ages, mean body length of males was significantly higher than that of females (283 versus 255 mm). There was no clear relationship between body length and estimated age, although the largest males were also the oldest. The analysis of LAGs revealed a sexual difference in growth rates, males reaching greater size earlier than females.

SARDINIAN BROOK SALAMANDERS

R. Lecis and K. Norris [2003, The Herpetological Journal 13:125-133] note that the Sardinian brook salamander, *Euproctus platycephalus*, is a cryptically colored urodele found in streams, springs and pools in the main mountain systems of Sardinia, and is classified as critically endangered by IUCN. General reviews of the mountainous range where salamanders occur are numerous, but very few field-based distribution studies exist on this endemic species. A field and questionnaire survey, conducted between 1999 and 2001, provides a first attempt to increase data on the present distribution of *E. platycephalus*. Fourteen localities where Sardinian salamanders are represented by apparently stable and in some cases abundant populations have been identified, as well as 30 sites where species presence has been recorded after 1991. Some 11 historical sites were identified that are no longer inhabited by the species. The implications of this study for conservation and for the realization of an updated atlas are discussed.

YELLOW-BLOTCHED MAP TURTLES IN TROUBLE

B. D. Horne et al. [2003, Copeia 2003(4):729-738] studied the reproductive and nesting ecology of the yellow-blotched map turtle (*Graptemys flavimaculata*) from 1993 to 1994 and from 1996 to 1997 on the Pascagoula River in southeastern Mississippi. This species has undergone a recent decline leading to its listing as Threatened under the U.S. Endangered Species Act. The authors found three distinctive features of the biology of this population: a relatively low reproductive frequency compared with most other map turtles (maximum of 1.16 clutches/female), a very high level of nest mortality caused by river flooding and fish crow predation (90% mortality in some years), and an unexpectedly high level of nesting in shaded areas along the riverbank, perhaps in response to human disturbance on and near sandbars. The data suggest that, in the absence of extraordinarily high adult survival, this population will decline because of low recruitment. The authors suggest a series of specific strategies to reverse these declines, including better law enforcement to protect adult turtles, public education, and possibly, protection of nests on the nesting beaches.

RESPONSES TO ALARM CHEMICALS

G. A. Marvin et al. [2004, Herpetologica 60(1):24-33] note that variation among vertebrates in the response to alarm chemicals released from injured conspecifics and heterospecifics may be caused by differences in phylogeny and/or ecology. To investigate the relative importance of phylogeny and ecology in the evolution of alarm responses, the authors tested five species of plethodontid salamanders (genus *Eurycea*) for whether they avoid chemicals from injured conspecifics and congeners of sympatric and allopatric populations. They also examined whether different methods of data collection and analysis produce equivalent results. All methods indicate that *E. guttolineata*, *E. multiplicata multiplicata* and *E. quadridigitata* do not avoid chemicals from injured conspecifics or congeners. Some methods indicate that *E. longicauda melanopleura* avoids alarm chemicals from conspecifics and sympatric *E. lucifuga* and that *E. wilderae* avoids alarm chemicals from conspecifics and allopatric *E. m. multiplicata*. However, other methods indicate that these species do not avoid chemicals from injured conspecifics. The authors conclude that (1) only some species may avoid areas with alarm chemicals, (2) ecological factors may be more important than phylogenetic affinities in determining responses to alarm chemicals, and (3) differences in methodology can lead to disparate conclusions about the response of a species to alarm chemicals.

ARTIFICIAL BURROWS FOR ENDANGERED LIZARDS

T. Milne et al. [2003, J. Herpetology 37(4):762-765] report that the endangered pygmy blue tongue lizard, *Tiliqua adelaidensis*, occupies narrow vertical burrows, probably constructed by spiders. The authors assessed the fitness of female lizards in artificial burrows added to a 1-ha plot within a natural population, over a three-year period. Compared with females in natural burrows, females in artificial burrows had significantly better body condition and produced larger offspring with better body condition. The authors discuss possible explanations for these differences but conclude that adding artificial burrows was not detrimental to reproductive females in a population and could be used in the conservation management of this species.

LEATHERBACKS IN THE MEDITERRANEAN

P. Casale et al. [2003, The Herpetological Journal 13:135-139] review a total of 411 records of leatherback turtles (*Dermochelys coriacea*) for the whole of the Mediterranean, of which 57 are new records reported from Italy. Data on anthropogenic factors, spatio-temporal distribution, size and maturity are discussed. Leatherback turtles are most frequently captured incidentally by fishing nets. Specimens seem to be concentrated in specific areas rather than being evenly distributed along a linear gradient from the Atlantic. Moreover, they frequent the Mediterranean all year round without clear seasonal patterns of immigration or emigration. However, seasonal movements may occur between northern and southern coasts. Specimens entering the Mediterranean are likely to be large juveniles and adults of both sexes.

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: < http://www.themousefactory.com>.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: herp books. Books make good gifts—for yourself and others. *Frogs of Southern Western Australia* by A. R. Main, 1965, 72 pp., 4 b&w plates, 2 figs., 5 tables, softbound, $12; *Frogs of South Australia* by Michael Tyler, 1977, 50 pp., many b&w photos, one color photo, 5 figs., keys, softbound, $14; *The Last of the Ruling Reptiles* by Wilfred T. Neill, 1971, Columbia University Press, 486 pp., 162 figs. (b&w photos, range maps), extensive bibliography, scholarly reference on the 22 species of crocodilians, DJ, excellent condition, hardbound, $98; *Eyelids of Morning* by Alistair Graham and Peter Beard, 1990, 260 oversize (9 × 12") pp., many color and b&w photos (many macabre), fascinating story of 3 years of research on Nile crocodiles in Kenya's Lake Rudolf and their relationship with the Turkana people, softbound, $23; *Frogs of the Northern Territory* by Michael Tyler and Margaret Davies, 1986, 77 pp., 49 color photos, 38 figs. (mostly range maps), keys, softbound, $21; *Poisonous Snakes of the World*, Department of the Navy, 1965 revised ed., 212 pp., 8 color plates, 120 figs. (b&w photos), inscription (not by author) on frontispiece, hardbound, $18. All books are in excellent condition except as noted. Send E-mail address for complete list. Orders for $25 or more sent postpaid; $2.50 postage and handling for orders under $25. William R. Turner, 7395 S. Downing Circle West, Littleton, CO 80122, (303) 795-5128. E-mail: toursbyturner@aol.com.

For sale: c.b. '03 yellow anacondas, aggressive feeders, perfect health, about 2' long, $100 each; also c.b. '04 reticulated pythons; beautiful hatchlings already feeding on adult mice. These guys are tiger siblings and are available for $100/each as well. Personal checks, money orders and Paypal accepted. Out of state shipping available. If you have questions or would like to purchase an animal call Mark Petros, (847) 836-9426 or E-mail ballpython777@yahoo.com.

For sale: female Barbour's map turtle, $150; ringed python, sex unknown, $150. Jim McDermott, (708) 552-0132.

For sale: Now taking reservations for 2004 unusual garter snake expected offspring. The babies are expected to be born this June. **Easterns**: Florida, $25 each/2 for $40; albinos (limited numbers), 4 strains, $195–250 each; flames & speckled flames, market value; melanistic, $35 each; silver hets, $75 each; granite, $150 each (limited numbers); granite hets, $75 each; erythristics, $100 each. **Plains**: normal, $25 each/2 for $40; snows, Iowa and Nebraska, market value; albinos, Iowa and Nebraska, market value; anerythristic, market value; axanthic (co-dominant trait), $95 each; quad hets, $75 each; red × albino—albinos, $125 each, hets, $40 each; Christmas albino, market value; super Christmas albino, $175 each; red albino plains, market value; hybinos, $195 each; hypos, $95 each. **Santa Cruz**, $60 each; **Wanderings**: normals, $25 each/2 for $40; albinos (limited numbers), $150 each; het albino, $50 each; possible het albino, $35 each; melanistics, $95 each; het melanistics, $35 each; **California red-sided**, $125 each, **Florida true blue-striped (*similis*)**, $40 each; **Red-sided**: normal, $25 each/2 for $40; albinos, $375 each (limited numbers); possible het albinos, $60 each; anerythristic, $100 each; hets, $50 each; possible hets, $35 each; het colorless, $35 each. Contact Scott via email SFelzersgarters@nc.rr.com or call (919) 365-6120 EST. Web address is <http://www.gartersnakemorphs.com>.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: info@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <http://www.bluechameleon.org>, E-mail: bill@bluechameleon.org, or call (239) 728-2390.

Herp tours: Experience the Amazon! Road-ride in Costa Rica! See and photograph herps where they live, have fun doing it, make good friends and contacts, and best of all . . . **relax!** From wildlife tours to adventure travel, **GreenTracks, Inc.** offers the best trips led by internationally acclaimed herpers and naturalists. See our website <http://www.greentracks.com> or call (800) 9-MONKEY. E-mail: greentracks@frontier.net.

Internship: The Kentucky Reptile Zoo, a nonprofit organization, seeks student interns for the 2004 spring, summer and fall seasons. The zoo is an educational exhibit, reptile breeding and venom research facility located near Kentucky's Red River Gorge and Natural Bridge State Park. The intern will assist in the captive maintenance of the zoo's reptile collection, collect admissions to the exhibit, give interpretive talks and interact with the public, assist with educational outreach programs, and perform other duties as assigned. In addition, the intern will be responsible for the completion of at least one research project related to the field of herpetology. The intern will not be involved in the handling of any venomous reptiles. Desirable qualifications include a willingness to handle snakes and other reptiles on a daily basis, ability to communicate effectively with people, writing skills, orientation to details, and self-motivation. The intern will be required to work both Saturday and Sunday, with days off during the week. Interns are required to be either current college students or recent graduates; students majoring in the biological or natural sciences are preferred. Former interns have arranged for academic credit with their colleges or universities. Interns have also been successful in finding zookeeper positions, with a hire rate of over 95%! Benefits include experience with the most extensive and diverse collection of snakes in the U.S., housing and $55/week to cover expenses. Personal transportation is recommended. A valid driver's license is required. Starting dates are flexible, but a minimum commitment of 3 months covering spring (March–May), summer (June–August), or fall (September–November) is required. To apply send a cover letter, resume, transcript, and at least 2 (preferably 3) references to: Kristen Wiley, Internship Coordinator, Kentucky Reptile Zoo, 200 L&E Railroad, Slade KY 40376. Or E-mail: kyreptil@mailhost.mis.net.

Pet Sitting: In-home care for all your pets' needs. Specializing in reptiles, amphibians, birds, fish, dogs, cats. . . . Very passionate in herpetology, experienced vet technician at an exotic animal hospital, aquarium technician for over 10 years. Great references available. Call Lisa Collins to book your special care requests, (847) 644-3681. [Northshore based]

Wanted: Female ball pythons, adults preferred but smaller animals also considered. I am a professional breeder specializing in ball pythons and I can assure you that your animal will be provided with excellent care and optimal living conditions. Mark Petros, (847) 836-9426; ballpython777@yahoo.com.

Wanted: I'm looking for my soulmate. I want to settle down to a family before it is too late. But I have this problem. . . . When we get into hobbies and interests: old popular records, jazz and show tunes, and antique electronics are fine, but when I mention turtles, "What, are you crazy?" So maybe this is a better place to look. Please don't try to separate me from my turtles—at least not most of them. If interested, please drop a line to Ellis Jones, 1000 Dell, Northbrook IL 60062, telling a bit about yourself and giving a phone number.

Advertisements (cont'd)

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: **Cape cobra information**. I am seeking data for captive breedings of *Naja nivea*. My primary purpose is to establish the number of eggs laid (any double clutches?) and most important the color of the neonates immediately after emergence. Contact: Karl Switak at khs@sonic.net.

Line ads in this publication are run free for CHS members — $2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com.

ReptileFest 2004 is over.

And it was a great success!

Thanks to our sponsors: Timberline, ZooMed, Chicago Reptile House

Thanks to the following
companies for special help:
All-Glass Aquariums
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Eddie Bauer of Naperville.

And special thanks to the vendors,
exhibitors,
and helpers who made this year possible.
If you couldn't make it this year, next
year is closer than you think.
ReptileFest 2005 April 2, 3

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, April 28, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. Renowned nature photographer **Karl Switak** will speak and show slides on the wonders of South Africa's Kalahari Desert. This program will include scenes from Karl's latest trip to the Kalahari, last October, on which he was accompanied by Lori King and Mike Dloogatch.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the May 14 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot behind the building.

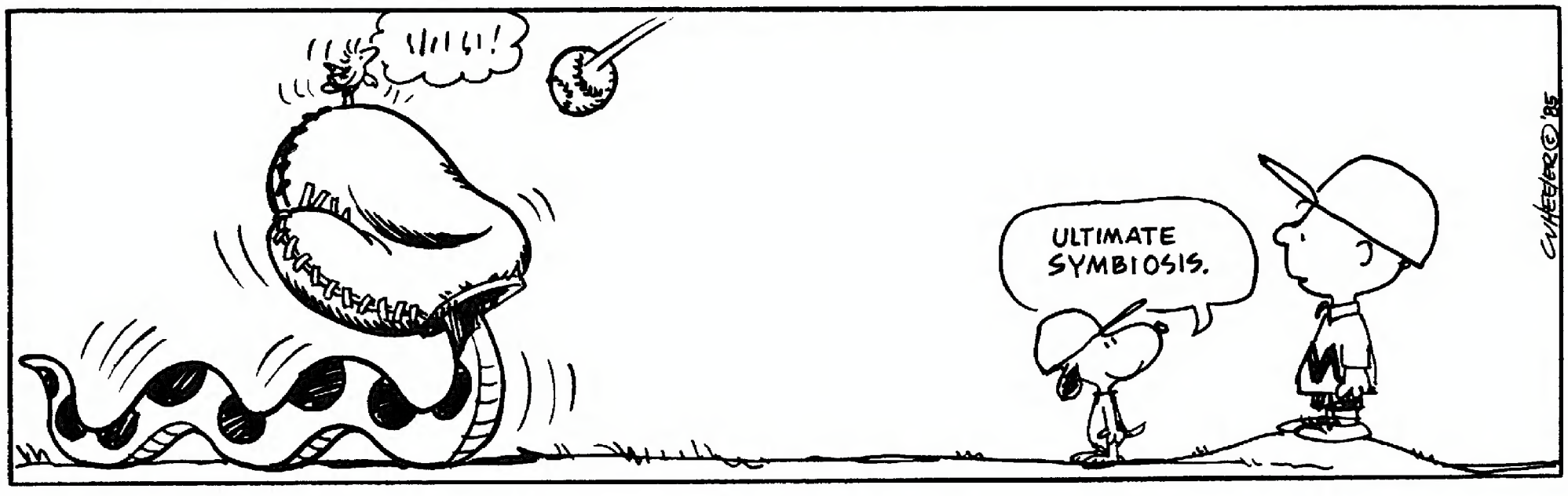
The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: http://www.geocities.com/~chicagoturtle.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the "Herp of the Month" to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners as follows: 1st place—6 raffle tickets at next meeting; 2nd place—4 raffle tickets at next meeting; 3rd place—2 raffle tickets at next meeting. Here are the categories for the coming months: April — Beginner herps; May — Herps from Madagascar.

THE ADVENTURES OF SPOT



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